WHAT IS CLAIMED IS:

1. A stator for a generator with indirect cooling, the stator comprising:

a core including mutually spaced packets of core laminations, radial ducts being defined between the packets for the passage of gaseous coolant between the inner and outer peripheries of the core, the core having axial slots configured and arranged to accommodate armature bars;

baffles arranged in the radial ducts configured and arranged to cause gaseous coolant flowing radially in one of the radial ducts from one periphery of the core to enter a slot adjacent said duct and flow in a direction along said adjacent slot before entering one of the radial ducts, in which said one of the radial ducts the gaseous coolant can flow radially toward the other periphery of the core.

2. A stator as claimed in claim 1, further comprising:

a plurality of armature bars positioned in said axial slots.

3. A stator as claimed in Claim 2, further comprising:

lateral spacers in said slot defining passages for the gaseous coolant between the core and armature bars.

4. A stator as claimed in claim 3, wherein the lateral spacers comprise lateral wedging elements occupying only part of the radial height of an armature bar.

5. A stator as claimed in claim 3, wherein the lateral spacers comprise lateral wedging springs having corrugations extending along the slot or protuberances making only local contact with the core and with the armature bars.

6. A stator as claimed in claim 5, comprising a series of at least two non-wedging packets between two wedging packets.

7. A stator as claimed in claim 6, wherein the spacing between the non-wedging packets is greater than the spacing between each wedging packet and an adjacent non-wedging packet.

8. A stator as claimed in.Claim 2, wherein at least one of the packets of core laminations comprises a wedging packet in which the laminations extend into the width of each slot and make contact with the armature bars.

9. A stator as claimed in claim 8, wherein the wedging packet is thinner than the non-wedging packets.

10. A stator as claimed in claim 1, wherein the axial slots and radial ducts are configured and arranged so that gaseous coolant flowing radially in a first one of the radial ducts from said one periphery of the core enters a slot adjacent the first duct and flows in a direction along said slot before entering a second one of the radial ducts, in which second one of the radial ducts the gaseous coolant flows radially toward the other periphery of the core.

11. A stator as claimed in claim 10, wherein the first and second ducts are separated from each other by a single packet of core laminations.

12. A stator as claimed in claim 11, wherein said baffles comprise first and second oblique baffles; and

wherein the first duct contains the first oblique baffle which is angled with respect to the radial and circumferential directions of the stator and which deflects the gaseous coolant into one side of said slot, and wherein the second duct contains the second oblique baffle which is angled in the opposite sense to the first oblique baffle and which deflects the gaseous coolant leaving said one side of the slot so that the gaseous coolant flows radially.

13. A stator as claimed in claim 12, wherein said slot comprises an open end portion, and further comprising:

a closure in the open end portion of said slot; and

wherein one of the first and second oblique baffles extends to said closure.

14. A stator as claimed in claim 12, wherein one of the first and second baffles extends from the base of the said slot.

15. A stator as claimed in Claim 12, wherein the first and second baffles substantially block the first and second ducts.

16. A stator as claimed in Claim 10, comprising two second ducts, one of said two second ducts positioned on each side of the first duct.

17. A stator as claimed in claim 10, further comprising:

a plurality of gap closures; and

wherein each of the first and second ducts contains a baffle at a location between two armature bars arranged one on top of the other in said slot, one axial end of each baffle extending to a gap closure between one of the two armature bars and the walls of the slot, and the other end of each baffle extending to a gap closure between the other of the two armature bars and the walls of the slot.

18. A stator as claimed in claim 1, wherein the axial slots and radial ducts are configured and arranged so that gaseous coolant flowing radially in one of the radial ducts from said one periphery of the core enters a slot adjacent said one duct and flows first in one direction along the slot and then in an opposite direction along the slot before re-entering said one duct.

19. A stator as claimed in claim 18, further comprising:

a baffle in said one duct which baffle deflects the gaseous coolant into one side of said slot.

20. A stator as claimed in claim 19, wherein said baffle substantially blocks said duct so that substantially all of the gaseous coolant flowing through said duct passes through the slot portions on both sides of the said duct.

21. A stator as claimed in Claim 1, wherein the axial slots and the radial ducts are configured and arranged so that at one end of the core the gaseous coolant flowing radially in one of the radial ducts from said one periphery of the core enters both of the slots adjacent said duct and flows along the slots to the end of the core.